

What is claimed is:

1. A method for regulating access by users to a scarce resource, said resource being capable of handling multiple concurrent accesses, the method comprising the steps of:

receiving a request for access to the scarce resource;

determining whether the access level for said scarce resource is at a desired maximum;

responsive to determining that said access level is at a desired maximum, placing said requester in a queue for access to said scarce resource; and

providing said requester with a notification that the request has been enqueued, access being available to said requester upon reaching the head of the queue and said access level dropping below said desired maximum.

2. The method of claim 1 further comprising the step of:

periodically providing said requester with updates on said requester's progress through the queue.

3. The method of claim 2, further comprising:

issuing said requester with a numbered ticket denoting said requester's position in the queue

4. The method of claim 3, wherein said number is displayed to the requester.

5 5. The method of claim 3, wherein the step of periodically providing the requester with updates on said requester's progress through the queue comprises:
informing said requester of the ticket number of the last user granted access to said scarce resource.

10 6. The method of claim 3, comprising:
calculating the average time taken to serve the holder of each ticket number; and
15 providing said requester with an estimated time to wait based on said calculated average.

20 7. The method of claim 2, wherein the step of periodically providing the requester with updates is responsive to the requester polling for such updates.

8. The method of claim 7, comprising the step of:
downloading onto said requester's computer an executable program for initiating said polling.

25 9. The method of claim 1, comprising the steps of:

storing information on said requester's position in the queue and information for the purpose of providing the requester with notifications, said positional information being continually updated as said requester progresses through the queue.

10. The method of claim 9, comprising the step of:

initiating periodic updates to the requester on said requester's progress through the queue.

11. The method of claim 9, further comprising the step of:

providing the requester with a notification when access to the scarce resource is available.

12. The method of claim 9, wherein the step of storing requester information is responsive to determining that said requester is within a predetermined threshold of the head of said queue.

13. The method of claim 1, comprising the step of:

responsive to said requester re-requesting access to said scarce resource, providing the requester with an update on the requester's progress through the queue.

14. The method of claim 13, wherein each re-request presents a ticket number issued to the requester upon being placed in said queue, said method further comprising the step of:

5 using said presented ticket number to determine whether access is available to said requester; and
 responsive to determining that access is available, granting said access.

10 15. The method of claim 14, wherein the step of granting access comprises:

 diverting said requester to a first server hosting said scarce resource.

15 16. The method of claim 14, comprising the step of:

 responsive to determining that access is not available, diverting said request to a second server, said second server providing the requester with entertainment whilst in said queue.

20 17. The method of claim 1, comprising the step of:

 providing said requester with entertainment whilst said requester in the queue.

25 18. The method of claim 17, wherein said entertainment is remote from the scarce resource.

09547536-072701
10/20/2001

19. The method of claim 1, wherein the step of determining whether said access level for said scarce resource is at a desired maximum comprises:

5 tracking the number of users currently accessing the scarce resource; and

comparing said number with a predetermined maximum value.

10 20. The method of claim 1, comprising the steps of:

receiving a late request for access to said scarce resource from said requester having missed access when available;

15 determining whether said scarce resource is able to accommodate access by said late requester;

responsive to determining that it is possible to accommodate access, by said requester, granting access to said requester; and

20 responsive to determining that it is not possible to accommodate access by said requester, re-queuing said requester.

25 21. Apparatus for regulating access by users to a scarce resource, said resource being capable of handling multiple concurrent accesses, the apparatus comprising:

means for receiving a request for access to the scarce resource;

means for determining whether the access level for said scarce resource is at a desired maximum;

5 means, responsive to determining that said access level is at a desired maximum, for placing said requester in a queue for access to said scarce resource; and

means for providing said requester with a notification that the request has been enqueued;

10 access being available to said requester upon reaching the head of the queue and said access level dropping below said desired maximum.

22. The apparatus of claim 21 further comprising:

15 means for periodically providing the requester with updates on said requester's progress through the queue.

23. The apparatus of claim 22, further comprising:

20 means for issuing said requester with a numbered ticket denoting said requester's position in the queue.

24. The apparatus of claim 23, wherein said number is displayed to the requester.

25 25. The apparatus of claim 23, wherein the means for periodically providing the requester with updates on said requester's progress through the queue comprises:

means for informing said requester of the ticket number of the last user granted access to said scarce resource.

5 26. The apparatus of claim 23, comprising:

means for calculating the average time taken to serve the holder of each ticket number; and

means for providing said requester with an estimated time to wait based on said calculated average.

10 27. The apparatus of claim 22, wherein the means for periodically providing the requester with updates is responsive to the requester polling for such updates.

15 28. The apparatus of claim 27, comprising:

means for downloading onto said requester's computer an executable program for initiating said polling.

20 29. The apparatus of claim 21, comprising:

means for storing information on said requester's position in the queue and information for the purpose of providing the requester with notifications, said positional information being continually updated as said requester progresses through the queue.

25 30. The apparatus of claim 29, comprising:

means for initiating periodic updates to the requester on said requester's progress through the queue.

31. The apparatus of claim 29, further comprising the step of:

providing the requester with a notification when access to the scarce resource is available.

32. The apparatus of claim 29, wherein the means for storing requester information is responsive to means for determining that said requester is within a predetermined threshold of the head of said queue.

33. The apparatus of claim 21, comprising:

means, responsive to said requester re-requesting access to said scarce resource, for providing the requester with an update on said requester's progress through the queue.

34. The apparatus of claim 33, wherein each re-request presents a ticket number issued to the requester upon being placed in said queue, said apparatus further comprising:

means for using said ticket number to determine whether access is available to said requester; and

means, responsive to determining that access is available, for granting said access.

35. The apparatus of claim 34, wherein the means for granting access comprises:

means for diverting said request for access to a first server hosting said scarce resource.

36. The apparatus of claim 34, comprising:

means, responsive to determining that access is not available, for diverting said request to a second server, said second server providing the requester with entertainment whilst in said queue.

37. The apparatus of claim 21, comprising:

means for providing said requester with entertainment whilst said requester in the queue.

38. The apparatus of claim 37, wherein said entertainment is remote from the scarce resource.

39. The apparatus of claim 21, wherein the means for determining whether said access level for said scarce resource is at a desired maximum comprises:

means for tracking the number of users currently accessing the scarce resource; and

means for comparing said number with a predetermined maximum value.

40. The apparatus of claim 21, comprising: means for receiving a late request for access to said scarce resource from said requester having missed access when available;

means for determining whether said scarce resource is able to accommodate access by said late requester;

means, responsive to determining that it is possible to accommodate access by said requester, for granting access to said requester; and

means, responsive to determining that it is not possible to accommodate access by said requester, for re-queuing said requester.

41. Method for requesting access to a scarce resource, said resource being capable of handling multiple concurrent accesses and access to said scarce resource being regulated, said method comprising the steps of:

requesting access to said scarce resource; and

receiving a message that said access is not currently available and that said request has been queued, access being available upon reaching the head of the queue and an access level for said resource dropping below a desired maximum.

42. The method of claim 41, comprising the step of:
receiving periodic updates on progress through the
queue.

5

43. The method of claim 42, comprising:
receiving a numbered ticket denoting said
requester's position in the queue.

10

44. The method of claim 43 further comprising the step
of:
displaying said ticket number to the requester.

15

45. The method of claim 43, wherein the step of
periodically receiving updates on progress through the
queue comprises:
receiving the ticket number of the last user granted
access to said scarce resource.

20

46. The method of claim 45, further comprising the step
of:
displaying said last ticket number to the requester.

25

47. The method of claim 43, comprising:
receiving an estimated time to wait based on a
calculated average

48. The method of claim 47, comprising the step of:
displaying said estimated time to wait based on a
calculated average

5

49. The method of claim 42, comprising the step of:
periodically polling for such updates.

50. The method of claim 49, comprising the step of:

responsive to determining that the head of the queue
is within a predetermined threshold, decreasing the
polling period.

51. The method of claim 41, comprising the step of:
periodically re-requesting access to said scarce
resource.

52. The method of claim 51, wherein the step of
re-requesting access comprises:

presenting a ticket number issued upon being placed
in said queue, said presented ticket number being used to
determine whether access is
available to said requester.

20

25

53. The method of claim 41, further comprising the step of:

receiving a notification when access to the scarce resource is available.

5

54. Apparatus for requesting access to a scarce resource, said resource being capable of handling multiple concurrent accesses and access to said scarce resource being regulated, said apparatus comprising:

means for requesting access to said scarce resource;
and

means for receiving a message that said access is not currently available and that said request has been queued,

access being available upon reaching the head of the queue and an access level for said resource dropping below a desired maximum.

55. A computer program comprising program code adapted to perform the steps of:

receiving a request for access to the scarce resource, said resource being capable of handling multiple concurrent accesses;

determining whether the access level for said scarce resource is at a desired maximum;

responsive to determining that said access level is at a desired maximum, placing said requester in a queue for access to said scarce resource; and

providing said requester with a notification that the request has been enqueued, access being available to said requester upon reaching the head of the queue and said access level dropping below said desired maximum.

56. A computer program for requesting access to a scarce resource, said resource being capable of handling multiple concurrent accesses and said access being regulated, said program comprising program code adapted to perform the steps of:

requesting access to said scarce resource; and

receiving a message that said access not currently available and that said request has been queued, access being available upon reaching the head of the queue and an access level for said resource dropping below a desired maximum.

10

15

20